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ABORIGINAL NEW ENGLAND POTTERY (1)

William J. Howes

When the early French explorers arrived on this continent they found two distinct family groups producing pottery in New England territory. They were the Algonkians and Iroquoians.

The Algonkians occupied the deeply indented Maine coast territory and the whole of southern New England as far inland as the Vermont-New Hampshire line, and possibly a little beyond.

The Mohawks of the "Five Nation" confederacy of central New York, of the Iroquoian family group, occupied the Champlain Valley territory centering around the mouth of the Winooski River near Burlington and Colchester, Vermont.

Their territory was mostly mountainous, with a comparatively small area suitable for domestic pursuits. They were great hunters and fierce warriors. They preferred to roam the country over and prey upon the weaker settlements for their products rather than to raise them themselves.

The rich drainage basin territory of the Connecticut Valley to the south presented to them the most promising field for their raids, for the mountain barriers discouraged much communication in any other direction, and there was almost constant enmity between them and the Connecticut Valley Indians.

This section of western Massachusetts was one of the most outstanding focal points of all New England for the Indians But few realize how important it was to them, or what were its resources that attracted them from all sections to this center to obtain the commodities that were to be found here.

The Connecticut River and its tributary streams within Massachusetts, provided access to the locality from all directions and between the north and south tributary streams was the gateway to all New England from the north and west. Transportation was mostly by water in preference to packing their burdens to their destination over hill and valley and around swampy thickets by narrow trails not over two feet wide.

Among the resources of this part of the Valley were basalt, or trap rock, obtained from the Holyoke range, which provided them with the finest material for cutting tools, mauls, pestles, and other implements, while the woodlands, meadows, and streams supplied all their requirements for food, clothing, etc., in great abundance.

In the spring, after the flood season had passed and the streams had resumed their normal channel, then the fish from the sea swarmed up the river to its headwaters for spawning.

It was at this time that the Indians came with their families from all directions to the fishing falls to gather in their supply of fish and also to make their pottery from the superior quality of clay that was found outcropping in the beds of the streams where the women went for water. These temporary camp sites were scattered all along both sides of the river, miles away from their settlements or fortified villages. To one not informed, it might indicate a very much larger population for this reason than really existed.

Daniel Gookin, a commissioner to the Indians in 1656, says "Clay was very scarce and hard to find." Within this territory, near the "Great Falls" of the Connecticut River, now the location of the Holyoke Dam, it was found in abundance and of the finest quality. It should be remembered that vegetation covered the whole land and clay in general could only be found in beds of streams or where embankments had been washed away, bringing it to light.

At the close of the glacial period this whole territory was covered with a series of great lakes. As the waters gushed forth from the mouths of the glaciers they brought with them boulders, rocks, gravels, sands, dropping them in the same succession, and roily water. Held in suspension in this roily water were particles of rock floor that were carried far out into the still waters of the lake where they settled to the bottom, forming great beds of pure clay. These beds have since been found to be more than thirty feet in depth.

Near the shore line, with the advance and recession of the glacier from year to year, this clay was laid down in strata of different thickness, alternating with layers of fine sand. Pottery made from this type

(1) Read before the Eastern States Archaeological Federation at the American Museum of Natural History, New York, October 21, 1939.

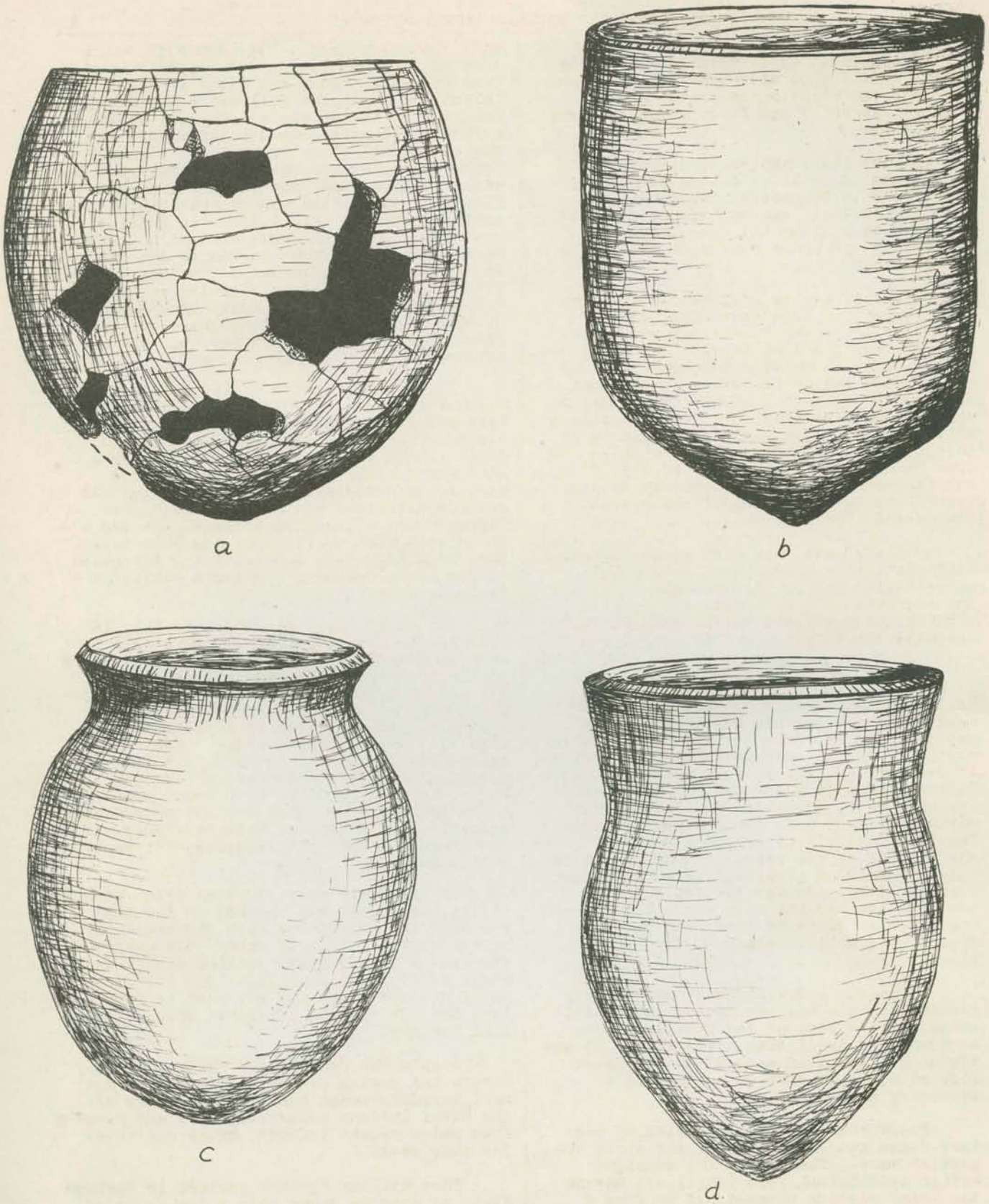

Figure 1.

EARLY ALGONKIAN POTTERY

a, From Rhode Island and Nantucket Types, Diam. 12", Height 14"; b, Connecticut Valley; c, Southern New England; d, Type found in Maine shell heaps, and also in Connecticut Valley.

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of mixture was hard to mould, and after firing was found to be brittle and easily broken, while that made from the fine quality clay was plastic and easily moulded. When it was dried and fired it made a very serviceable.

Almost all examples of pottery found within the Connecticut Valley are surface finds, and in fragments, owing to the action of the frost and turning of the soil by the plow. Along the coast, specimens of pottery are found mostly in shell heap explorations.

Different styles of construction have been recognized from these fragments. Some show imprints of basketry, of nets made of twine, and of fabric. Probably the method by which pottery was most commonly constructed was as follows. First, a pancake or a coiled roll of clay for starting the base of the vessel was placed within a shallow basket or a bowl that could be rotated. The building of the side walls was done by adding pats or rolls of clay of a consistency that was stiff enough to prevent slumping or warping of the vessel from the desired form.

Pottery made from clay alone presented difficulties of shrinking and cracking while drying and firing the ware. The potter overcame this by adding a tempering material or aggregate to the clay which remedied the defect.

Crushed and pulverized granite seems to have been the aggregate used by the Valley Indians, while crushed shell was used to a considerable extent along the coast territory, even steatite has been recorded as having been used for this purpose. At Southbridge, and in some places in Rhode Island, graphite was found. This material was used as a tempering material and for making the ware more impervious to moisture. The finer quality of graphite was rubbed over the surface of the vessel. When polished, this presented a pleasing luster and decorative effect against the red and grey tones of the natural clay pot. All tempering material seems to have been used ungraded save when it was used for tobacco pipes.

In southern New England, the pottery produced by the earlier groups of Indians seems to have been of the most primitive sort until a short time after 1600. It was strictly a domestic ware of the simplest form with the decoration applied as a secondary consideration.

There were but few varieties of pottery forms characteristic of the early Algonkian ware. These were the straight bodied cylindrical form (Fig.1,b), having the lower portion tapered off to form a pointed base, similar to the pot found at Warehouse Point, Connecticut so often illustrated. This shape was only identified with this territory. The form with walls curving from the rim to the slightly pointed base (Fig.1,a) which was found in Rhode Island and Nantucket followed a prototype familiar in New Jersey and further south. A form found more commonly throughout New England varied slightly from the straight bodied type, retains the pointed base, but has a contraction about one-third its height from the top to form a neck that flared out again to the rim (Fig.1,d). Its outline presents a compound curve similar to that of an elongated "S" from the rim to the base. In the latest of this early type the pointed base was rounded off, presenting an egg shaped form with a high broad shoulder and somewhat deeper and shorter under-cut neck with a smaller opening at the top, and an everted rim (Fig.1,c).

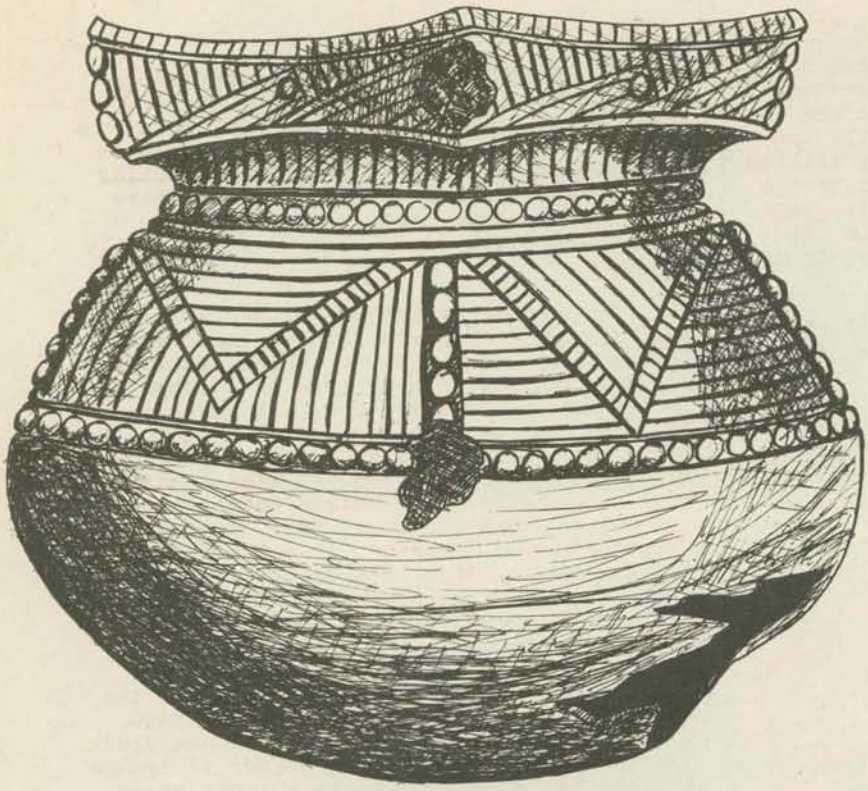
The characteristic style of decoration which was outstanding in all Algonkian pottery was done with the use of a chisel-like bladed implement having teeth cut in its edge. There were also localities where a cord-wound stick or paddle was used for wiping the moist surface of the pot of all surplus material; its markings gave the finished pot a textured surface. It was also used to make imprints of the cord markings by alternately reversing the direction of the lines making a checkered design as a finished decoration.

The Maine coast Algonkian Indian, in his isolated location, developed a type of ware that was characteristic and distinctive of his territory. The pottery forms were few and of true Algonkian style. The decoration was varied, bold, and vigorously applied, producing deep shadows in the design that made it outstanding. The deeply seated, large-toothed indentations, the deeply corrugated, consecutive rows of bands, and the bands of deep round punctations that overlay other surface decorations were all distinctive of this territory. A few fragments indicate Iroquoian motifs of a late period.

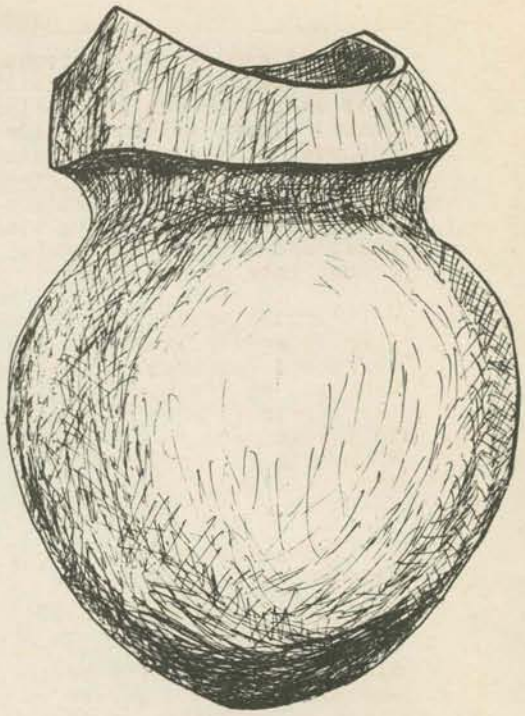
In the early ware, a broad stick with a chisel blade that was toothed on the edge, was used for decoration over the whole exterior surface of their ware. Its manipulation was a crawling and rocking motion instead of straight stamping. The stylus or sharp pointed implement was used to some extent and its use had developed several original designs.

Within the Connecticut Valley, shortly before the coming of the Pilgrims, the Mohawk invaders swept over the territory of the River Indians conquering them and placing them under annual tribute, which continued for many years.

When William Pynchon arrived in Springfield in 1636 he found only a few bands of weak and sickly Indians, the balance of the more able-bodied had joined with the stronger tribe to the north, for protection. This



a.



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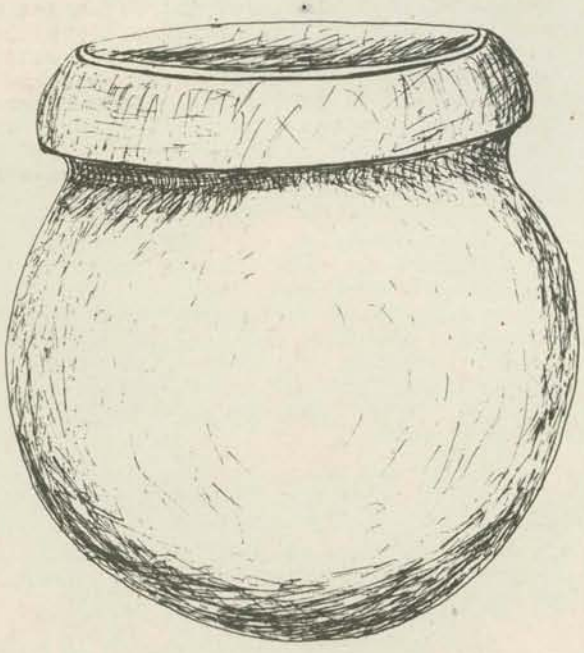

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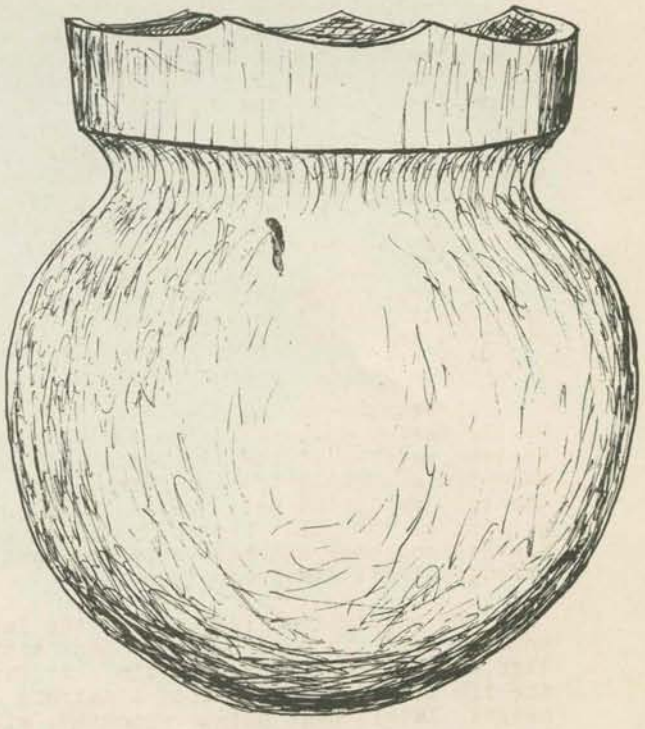


d.

Figure 2.

MOHAWK POTTERY

weakened condition, no doubt, was due to two epidemics of pestilential proportions that swept through all nations from the coast. These epidemics made possible the conquest of the native Indians, for William Wood in his New England Prospect, a report made to an English syndicate in 1637, says, "they lost all their fighting men in the great sickness" - and again, "the young men do not know how to fight."

In the spring, at the period of the fishing season, when the New England natives had gathered at the Great Falls, the Mohawks, by right of their control over the territory also came with their families to participate in the peaceful pursuits. Fragments of pottery made by this group have been found side by side with those of the natives on their workshop sites.

This contact had a great refining influence upon the Algonkian Indian pottery. With the Mohawk and the native southern New England women working adjoining each other, the native potter must have recognized the inferiority of the pottery she was producing and strove to improve upon her work by imitation of both the form and decoration of the pottery of the Mohawks. From this time forward there was a marked change in the ware produced by the southern New England Indian. This improvement seems to have radiated from the Great Falls section, with the strength of the new features diminishing with the distance from this center. The late Charles C. Willoughby, of Peabody Museum, Harvard University, has described in detail the contents of a grave in which the burial was made after the arrival of the first settlers. It contained glass beads and several pots on which distinct Iroquoian features of form and type of decoration were all done by stamping, the toothed implement indentations showing throughout the decoration. Unfortunately its production ceased during what might be classed as a transition period, for the Indians were able to procure the more durable metal pots from the early settlers before the close of King Philip's War, when they left the territory for good.

These Mohawks might well be recognized as the master potters of the whole northeastern section of the continent. Their ware had several different forms, with the greatest variation being noted in the upper portion of the pot. The spherical or globular shaped body and base were constant throughout all its production.

The outstanding features of the later pottery were the deep undercut neck with a high standing collar to the rim. At first, the rim of their pots was of a uniform height, later, high points appeared, with a sagging curve between them. These points varied in number from two to six around the rim.

On some fragments, a face is depicted by making two holes for eyes and one below for a mouth, and the junction and top of rim between the two high points. This feature was more in evidence where the deep collar and rim had changed to a square top above the deep undercut neck, resembling the square top birch receptacle of a very early period.

The ornamentation was all accomplished with a stylus or sharp pointed implement that was used as a graver, which permitted the greatest freedom of movement. The decorative motifs were few, but were applied with care and in a wide range of tasteful bands and panels. An inspection of the famous Colchester pot with square, high, rim collar with raised points at corners, on exhibition at the University of Vermont Museum, reveals it as the gem of all Mohawk pottery. The decorative motifs were few, their arrangement astonishing and the execution represented the work of a craftsman who excelled in his work.

It was in such an atmosphere that the Algonkian squaw began the transformation of her ware. Many fragments show how crude the copying was at first. By her diligence she accomplished wonders in a short space of time. It is regrettable that the production of the ware was not sufficiently prolonged to permit the development of a few of the designs that the awakened southern New England potters had made into an individualistic style of ware of their own.

While this is but a sketchy characterization of this ware, yet the ear marks of most of the essential features are enumerated. A careful inspection of the existing pottery fragments would, no doubt, show the trends even more clearly than those that are described herein.

Holyoke, Massachusetts

OBSERVATIONS ON A GROUP OF SHELL HEAPS ON CAPE COD

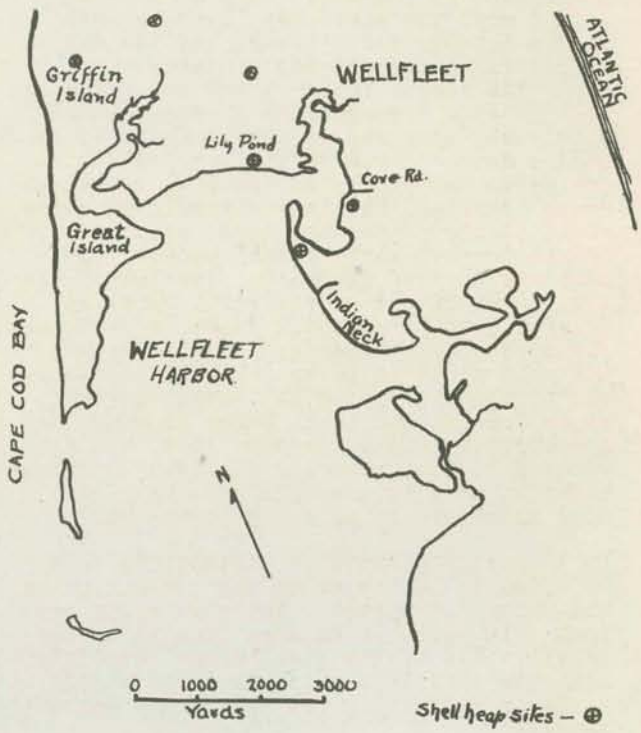
Ethel Boissevain

This paper will be a discussion of excavations and reconnaissance made in the summers 1942 and 1943 in and near the town of Wellfleet, Massachusetts, on the bay side of Cape Cod about fourteen miles south of Provincetown.

The modern town of Wellfleet is situated on a small harbor of the same name which is an inlet of Cape Cod Bay. Interestingly, all Indian sites brought to the writer's attention in the neighborhood of this town are located either on or very close to this body of water or close to flat meadows which, though now dry land, were formerly inlets of the Bay (see map). Although this part of the Cape is no more than about three miles wide, no Indian sites have been reported near the ocean side. Obviously, the Indians as well as the colonists settled close to water which was useful to them for clamming and fishing and which would not have a dangerous surf.

More exactly, Indian settlements near Wellfleet display a choice of location with a southerly or westerly exposure and usually with a fresh water supply close at hand. For example, the site on Griffin Island (now no longer an island) is located on a hillside sloping southward. At the foot of this hill is a small cranberry bog which may well have been a spring or pond which the Indians used for fresh water. Again, another site is located adjacent to a small pond (the Lily Pond) and is situated on the southern slope of a hill close to the Harbor. There are two sites, however, which are not near any discernible fresh water supply on land, one on Indian Neck and one on a bluff just south of Cove Road. In both of these cases, fresh water might have been obtained from springs in the harbor which appear as little rivulets at low tide.

All the Indian sites which have been brought to the writer's attention are shell heaps. Many have already been explored or partially excavated. Sometimes the contents have been removed and used as humus for local gardens. Although skeletons were found in the Hemenway site in Eastham, (1) graves are practically unknown in Wellfleet. One skeleton was discovered on Great Island west of the harbor by Mr. Earle Rich of Wellfleet. It was in such a poor state of



Sketch Map of Wellfleet Harbor

preservation that only the mastoid bone could be removed. This skeleton did not seem to be associated with a shell heap or any other cultural remains.

Although the known sites around Wellfleet are all shell heaps, and consequently present mainly points of similarity, namely black earth, which is probably decayed vegetation and other matter, strewn with shell, animal bones, charcoal and artifacts, there are also several individual differences.

There is a great deal of variability in the dimensions, notably in the horizontal measurements. The deepest deposit measured reached 34 inches, while most deposits were no more than 8 inches to one foot in their deepest parts. There are even greater differences in diameters. Some

(1) Johnson, Frederick, "The Hemenway Site, M42/42. Eastham, Mass." Bulletin of the Massachusetts Archaeological Society, Vol. III, No.3, 1942, p.27.

of the shell heaps are very small, such as those examined on Griffin Island, which measure about 12 to 13 feet in diameter. In contrast to this, the shell heap on the bluff by Cove Road measured about 122 feet in its north-south axis.

There seems to be no necessary correlation between circumference and depth of deposit. This may be demonstrated by a comparison of one shell heap on Griffin Island with the shell heap by Cove Road. In the latter case a trench and test holes demonstrated a north-south diameter of about 122 feet. Thirty-three feet from the western edge throughout a 22-foot trench this shell heap was no more than 12 to 13 inches deep. Assuming the east-west diameter to be roughly the same as the north south diameter, this trench would be quite close to the center and thus, supposedly, to the deepest part of the deposit. In contrast to this situation, the lower culture layer of one of the shell heaps at Griffin Island reached a depth of 34 inches. The north-south diameter of this deposit was only about 15 feet. This is not necessarily conclusive for all sites, however, since most of the shell heaps examined had already been partially disturbed, and also because limited time and facilities for excavation made it impossible to take as many measurements as would be desirable.

Another example of variability is to be noted in the depth of the topsoil above the culture deposits. While we might hope that this would yield some clue as to the relative age of the shell heaps, conditions indicate that it has little or no significance in estimating the age of the deposits beneath.

For one thing, we find that the topsoil may vary greatly in depth within the distance of a few feet. For example, the western edge of the shell heap at Cove Road is but 4 inches below the present surface. Thirty-three feet further east this same deposit is topped by 36 inches of sand. Inasmuch as the dunes bordering the harbor are now quite barren, there is a great deal of shifting of sand year by year, thus visibly altering their contour in a short time.

But although the topsoil is for this reason of little value, the sand beneath the culture deposits presents more definite material for consideration. All the shell heaps observed were underlain by a dark yellow sand, on which, in a few cases, there was superimposed an additional and puzzling layer. This is a deposit of grey or sometimes almost white layer of sand beneath the characteristic black earth and shells. This appears in spots 3 to 4 inches deep in the large heap by Cove Road. Again, it occurs under an exposed profile of a shell heap on the south shore of Indian Neck. In this case it sometimes dipped into cone-shaped pockets of one foot or more in depth and around one foot in length just under the culture deposit. This feature was also noted in the Hemenway Road shell heap in Eastham, a few miles south of Wellfleet. (2) Although this grey sand does suggest leaching from the charcoal and black earth above it, there is no explanation for its formation into deep pockets. Furthermore, no such deposit of grey-white sand was noted at Griffin Island where the content of the shell heaps seemed no different from those that were underlain by this type of sand. It might be possible that this light grey sand indicated the former presence of fresh water. It has the same consistency and is nearly of the same color as the sand that borders fresh water lakes in Wellfleet at the present time. Also, it appeared in two sites which are not now near any fresh water supply on land. The only now apparent source of fresh water is from springs arising in the harbor itself and obtainable at low tide only. Moreover, a source of fresh water is still present at the Griffin Island site, where no such deposit of light grey sand appears.

Another feature that was noted in the Hemenway site is the presence of hearths under the shell heap itself as well as neighboring it. (3) Some of these were characterized by layers of yellow or brownish clay In the Cove Road site in Wellfleet two small pockets of clay were also noted. In both pockets many fragments of pottery were found beside and mingled with this material. In one case, many potsherds, evidently from one large pot, appeared close together 8 to 9 inches deep in the culture deposit, beside, in, and above 3 to 5 inches of clay, all within a diameter of 24 inches. This in turn rested upon a 3 to 4 inch layer of grey sand. The second example is very similar. Here numerous pottery fragments, besides a few pieces of charcoal were located 6 inches deep in the culture deposit and resting upon and in a 5 inch layer of the clay. Neither of these small areas of clay deposit dipped below the bottom of the shell heap. Whether or not this feature should be interpreted

(2) Johnson, Frederick, op. cit., pp. 28-29.
(3) Ibid., p.28.

as hearths in this site is a problem. Johnson found some fine grained pinkish yellow material, which may be ash, in some of the hearths in the Hemenway site but nothing of this nature appeared here. That some pieces of charcoal were found near one of the clay deposits at Cove Road need not be of significance since charcoal fragments appeared throughout the shell heap. The clay itself showed no blackening as might be expected if it had been close to fire. Also there was no indication that either of these deposits of clay had been hollowed out or shaped in any manner so as to form a hearth or cooking pit. Any other interpretation of this feature is difficult to find. It might be that clay, collected for pottery making, had been found unsuitable and discarded in the shell heap as any other refuse. The fact that in two instances pottery fragments were so closely associated with these deposits of clay remains puzzling.

Thus far we have discussed various characteristics of some or all of the shell heap sites observed around Wellfleet Harbor. Only in one case was stratification of cultural deposit discovered. This was in one shell heap of a group on Griffin Island. Another interesting feature noted on Griffin Island was that there were several relatively small shell heaps situated close together.

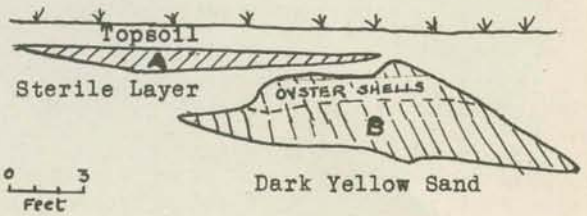
As mentioned above, this locale is no longer an island. The tides on the bay side of Cape Cod have deposited much sand along this shore and have thus joined several small islands to the Cape mainland (see map). We can be sure that it was an island in Indian times since it is indicated as such on a British map made during the Revolutionary War. (4)

On a southerly slope of a dune on this "island" are at least eight small shell heaps. They are scattered irregularly about 12 to 20 feet from one another and range in diameter from 11 to 12 feet. Several of these had already been disturbed, but where it was possible to take accurate measurements it was found that the culture deposit was from 7 to 10 inches deep. In all cases the topsoil was very shallow, only 3 to 4 inches in depth. This meager topsoil is probably a result of the wind blowing sand from this slope which is now nearly barren of trees and grasses.

The fact that we have here a cluster of small deposits of shell and black earth might indicate that these were not shell heaps in the true sense, i.e. refuse heaps, but were, indeed, the floors of dwellings. However, there is nothing in the deposits themselves, as far as could be ascertained to substantiate this belief. The contours of the deposits were, as would be expected for a refuse heap, thickest at the center and became shallower towards the periphery. The shells in these small deposits did not appear closely packed nor were they crushed as might be expected if they had been trampled upon. Therefore, rather than using a common refuse heap, it appears as if the Indians at this particular spot discarded refuse by their individual houses. The general distribution does correspond to descriptions of Indian villages by early explorers, Champlain in Chatham and Mourt near Truro. Proof will depend, of course, on finding post holes or some other indisputable marks to indicate the position of the houses.

As mentioned above, one of the shell heaps on Griffin Island is particularly interesting because of stratification. This was situated 93 feet west of the nearest shell heap in the cluster just discussed and was slightly lower on the hillside than the others.

Stratification in this layer consisted of two distinct layers of culture deposit (see diagram of profile view). The upper layer, A, was of approximately the same depth and size as the shell heaps nearby, namely 8 inches in maximum depth and 13½ feet in its north-south diameter. The top soil above it was 11 to 12 inches deep. The greater depth of topsoil here may well be due to the fact that this shell heap is lower on the hillside than the group just east of it and is less likely to be windswept. It does not necessarily prove greater antiquity.



North-south Profile of Stratified Shell Heap on Griffin Island.

Although the diameter of the lower stratum, B, was approximately the same as that of layer A, about 15 feet, it was out of the

(4) Brigham, Albert Perry, Cape Cod and the Old Colony, New York, 1920. p. 83.

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ordinary because of its unusual depth. In this case a maximum of 34 inches was reached; by far the deepest deposit thus far observed in this locality. The upper layer was not perfectly superimposed over the lower, as the accompanying diagram reveals.

Before taking up a discussion of the contents of all of the sites together, it would be well to point out what few differences there were between the two layers of this shell heap. At first glance, the layers would be indistinguishable, consisting of the typical dark earth strewn with shell, animal bones, charcoal, and occasional artifacts. However, the shells in layer A were largely sea clam and quahog with a few oyster shells and were still quite hard, whereas in layer B there was a greater proportion of oyster shells. These had become soft and easy to break. Also, while in A the shells were uniformly distributed throughout, in B there was a great concentration of oyster shell at the upper surface of the deposit, at one point 14 inches deep. The crumbly condition of these oyster shells may be because the top of this culture layer was used as a hearth and the shells were burned. On the other hand, it may simply be the result of their being in the earth longer than the shells of the upper layer.

Potsherds were found in both layers and are for the most part extremely similar. In layer B, however, a few sherds were found that are thinner and seem to be made with a finer temper than all other sherds in this site. Unfortunately, they are so small that it is impossible to determine the size or shape of the vessel. The decoration on these few sherds, rows of small indentations, is similar in motif to other decorated fragments from this vicinity, yet, again, the execution seems finer and more delicate than that noticed on any other sherds.

The lapse of time between the formation of these two culture layers, is, at present, impossible to determine. The number of artifacts found in each is so small and the difference in some of the potsherds is so slight that no true comparison can be drawn. Also the charcoal in the two layers, which will be discussed below, does not offer any clue as to time difference.

In general, the contents of the shell heaps around Wellfleet are so uniform that it seems best to discuss them collectively. Artifacts are rare and usually broken, which is not surprising if a shell heap was, indeed, primarily a refuse heap.

Shell

From the great quantity of shells in these deposits it is quite evident that the Indians were very dependent on this form of food. Clam shells, both quahog and sea clam, and oyster shells were the most abundant. Mussel, scallop, snail and conch shells were also present but sporadic.

Bone

Bones of various animals appear in all of the shell heaps observed. Most are so broken that identification is impossible. Bird and fish bones are perhaps the most numerous. Bones and teeth of larger game animals were also found, namely white tailed deer, elk, fox, a large land turtle (Dermochelys), harbor seal, a large porpoise (Terisops), and black fish (Globicephalus), which is a small variety of whale. (5)

All these animals are still to be found on the land or in the waters by the Cape, although not in such great numbers as formerly. We do not need to assume that the Indians went far out to sea to obtain the blackfish. Occasionally still a school of these whales are stranded on shore at low tide.

No true artifact of bone was found. However, a small fragment of deer bone and one of the deer tarsals show definite grooves and scratches which look as if they had been made by a blade or point.

Charcoal

In most of the shell heaps observed, small pieces of charcoal, none larger than a cubic inch, appeared sporadically. Some pieces from the stratified shell heap on Griffin Island were identified by Dean Samuel J. Record of the Yale School of Forestry to whom the writer is grateful. In layer A, the charcoal is from white oak, hickory, and white pine; in layer B, it is from white pine and black oak.

Whereas none of these trees are now living at this end of the Cape, early explorers and colonists reported deep forests with plentiful hardwoods. It appears to be quite true, although hard to believe now when scrub pine and oak are about the only unplanted trees in this region, that the tree growth on the Cape had reached the stage of a climax forest by the time the first Europeans came here. The reduction of these forests was probably due mostly to the white man's industries and house-building. (6)

(5) The writer is very grateful to Mr. George C. Goodwin of the American Museum of Natural History for identifying the mammal bones and to Mr. Charles M. Bogert of the same museum for identifying the turtle bones.

(6) Crowell, Lincoln, District Forest Warden, Cape Cod Forests, manuscript prepared for the First District Conservation Conference of the Massachusetts State Federation of Women's Clubs at Wareham, March 16, 1932.

The diminution of the forests from the 17th Century to the present was, of course, gradual. Hence the presence of hardwoods in this Indian shell heap does not give definite help in dating the site, nor does it aid in drawing any conclusions as to the time interval between the deposition of the two culture layers. Further study of charcoal from Indian sites may, however, prove valuable in understanding post-colonial Indian life. The disappearance of larger trees has greatly altered soil conditions and topography and thus must have affected the economic life of the Indians.

Stone

In the shell heaps around Wellfleet Harbor great numbers of stone rejects, chips, cores and pebbles are to be found but whole artifacts are very rare.

The large rounded beach pebbles found in the heaps might have been collected for the manufacture of tools and discarded as unsuitable or they might have been used for a hearth. All appeared scattered and in no sort of arrangement as to suggest a hearth, however. Only one type of these pebbles shows evidence of having been subjected to fire or heat. This is a variety of granite which is crumbly and breaks easily in the hand when burned, which is the condition of this stone when found in shell heaps.

Arrow points of white quartz and felsite are the most numerous stone artifacts. All but one that were excavated in the Griffin Island and Cove Road sites are triangular. However, a few stemmed points are known from the lower layer at Griffin Island and elsewhere as surface finds. When the total number of finds is so small, (7 from Cove Road and 7 plus a few rejects from Griffin Island) it does not seem wise to speak of relative numbers of one shape or another. Nevertheless, it may be significant that the only stemmed point found in situ was from the lower layer of the stratified shell heap.

One projectile point from the Cove Road site may have been a spear point. In shape it resembles a triangular arrow point but is a great deal larger, measuring 2½ inches from vertex to base.

In one of the small shell heaps on Griffin Island a broken grooved axe was found. The groove extends completely around the axe. It is made of red sandstone veined with quartz.

Two rather small hammer stones were found in the Cove Road shell heap. One of them has a small pit on one side only.

A puzzling artifact from the same site is a small rough surfaced pebble, 3 inches long, on one surface of which is a small depression, 1 inch long, which was probably chipped out. It is hardly large enough to have been used as a hammerstone (the pit being a place for a finger when pounding) or as a stone to hold nuts for crackling, both of which are suggested explanations for pitted stones 3 to 4 inches in diameter found in New England sites. (7) It may have been a hammerstone of this type that was worn down to an unusable size.

Pottery

Of all the products of manufacture found in these shell heaps, potsherds are the most numerous. Always, unfortunately, the fragments are so small that it is impossible to tell the shape of the vessel.

Except for the few sherds mentioned above, all the pottery observed is a very thick walled, coarse ware. The temper is ground up clam shell. The rim is barely thicker than the pot walls; for example, in one case it is 3/8ths of an inch thick on a pot whose walls are ¼ of an inch. Often potsherds were found scattered but in a few cases a great number were found close together, doubtless all from the same vessel. In one such case, it was possible to estimate the size of the mouth of the pot from the curve of rim fragments. This curve has a diameter of 12½ inches.

As to color, most of the sherds are a drab grey, buff, or light brick on the outside and often black inside. Sometimes there is a charred layer caked on the inner surface, probably food burned while cooking.

Decoration on the pottery is mostly confined to the rim and neck region on the vessel. It consists of small indentations, sometimes in horizontal rows and sometimes running in parallel rows diagonally down from the rim. Fragments probably from the belly of the pots often have faint haphazard scratches as decoration. This decoration was probably made by jabbing the wet clay with a stick or any other fairly sharp article. In general, the pottery is very similar to that found in Algonkin sites in north-eastern United States.

As a general conclusion, we can safely state that the Indian sites around Wellfleet Harbor correspond in character as well as in cultural content to other shell heap sites situated along the northern Atlantic seaboard.

The small amount of artifacts, especially stone work, makes it impossible to

(7) Willoughby, Charles C., Antiquities of the New England Indians. Cambridge, Mass., Peabody Museum, 1935. p. 178.

place these sites exactly in a chronology of the eastern states. Yet, it is very evident that what material has been found corresponds closely to some of the traits listed by Ritchie as comprising the Coastal Aspect of the Northeastern Phase of the Woodland Pattern. (8) Whether or not these sites represent more closely the "Early" Focus or the "Late"Focus of the Coastal Aspect as determined by Ritchie cannot be decided from the present amount of material. (9) The pottery with its uneverted rims and punctate decoration certainly is "Early". On the other hand, since most of the arrow points are triangular (although the small number of these make this observation only tentative), we have a "Late" characteristic.

In spite of the relative isolation of this part of the Cape from the mainland, many of the artifacts from this region and from other sites in the neighborhood of the north Atlantic seaboard are strikingly similar. This may be due to trade or other types of intermittent contact or to the fact that the Cape Cod Indians had not for long been separated from their mainland neighbors.

The few conclusions that can be reached concerning the shell heaps around Wellfleet lead to an appreciation of many problems that we hope further excavations will solve.

Some particular questions arising from the sites in this locality are: 1. The length of use of shell heaps and the permancy of settlements by them. Since agriculture was practiced by the Cape Cod Indians, we know that they lived here permanently but the question arises as to whether settlements close to shores, as the shell heap sites are, were occupied throughout the year; 2. Whether or not the shell heaps were used for purposes other than as a refuse heap, for cooking, etc.; and 3. The meaning of the light grey sand beneath some of the deposits.

There are also broader problems concerning the pre-history of the Indians of the entire Cape which we hope further archaeological work will solve. First is the question of the origin of the Cape Cod Indians and the length of their occupation of this land before the arrival of Europeans Next, the existence here of one homogeneous culture type or of successive diversified cultures throughout prehistoric times is still to be determined. Finally, it is desirable to collect further data to give us a more complete understanding of prehistoric culture on the Cape to supplement descriptions of early explorers and historians.

Hunter College
New York
September, 1943

A STRANGE DEPOSIT OF SPEARPOINTS

Arthur M. Hofmann

On the morning of June 22, 1943 the author was searching a sandy woods road leading to several camps on the north shore of the outlet to Foster's Pond, located in the Ballardvale district of the town of Andover, Massachusetts. The road, used by campers only, runs through a wooded country having many small hills with small flat valleys between them. The ground has never been disturbed since aboriginal days except by lumbering and the traffic of the owners of the camps. For many years the author has searched one part of this road because of the unmistakable evidence of the working of stone revealed by the presence of chips and flakes of felsite washed out after each heavy rain.

On the morning mentioned above searching had reached a point on the road about 300 feet from the shore of the pond when what appeared to be a small chip of grey felsite was noticed in the west rut of the road. In removing this chip, which was only partly exposed, it was immediately seen that it was in reality the center section of a spearpoint (No.1-A on the Plan) which had been broken by the tire of an automobile passing over it. When removing this partly exposed center section from the hard packed wheel rut it was noticed that another piece of felsite lay directly under it and touching it. This was carefully scraped out with a sharp stick and proved to be the base of the center section just removed. Directly under this base section (No.1-A on the Plan) and touching it projectile point No.2 (A on the Plan) was also scratched out. Under No.2 lay No.3 (A on the Plan) the point of which, touching No.2, pointed to the northwest. Thus lay three projectile points in the wheel rut,all large enough to be easily

(8) Ritchie, William A., "A Perspective of Northeastern Archaeology." American Antiquity, Vol.IV, No.2, 1938. p.104.
(9) Ibid., pp. 104-105.

classed as spearpoints, one under the other and touching one another. It is extremely important in surface searching that every chip observed that appears to be only partly exposed be given further investigation. Often these prove to be the exposed part of a complete artifact. Thorough investigation of the partly exposed "chip" in this case not only revealed two parts of projectile point No.1 but was the means of discovering two more complete ones (No.2 and No.3) and eventually the excavating of others nearby.

Examination of the broken projectile point (No.1) showed that the breakage was quite recent so it was decided to return another day with excavating tools to search for the missing point.

On July 9th excavation was started in an effort to recover the point of projectile point No.1. Eight inches directly west of "A" on the plan (the spot where projectile points No.1, No.2 and No.3 were found) the trowel uncovered instead of the sought for point of Number 1, Number 4 (B on the Plan), resting in situ 7½ inches below the surface of the ground in the brown layer. In order to avoid duplication it will be now stated that all subsequent projectile points excavated lay in situ from ½ to 1 inch above the yellow brown layer or from 7½ to 8 inches below the surface of the ground. Number 5 (C on the Plan) was uncovered 4¼ inches directly north of No.4 resting at an angle of 60 degrees with the point facing to the west. Three and three-quarters inches north of No.5, in a flat position with the point to the south lay No.6 (D on the Plan).

As the point of No.1 had not yet been found it was decided at this time to excavate the center section of the road, working to the north from "A" on the plan. Six and one-half inches from "A" just a little to the east of north lay the much sought for point of No.1 (E on the Plan). This lay just under the leaves and sand where it had been apparently thrown by the spinning action of the automobile wheel which broke projectile point No.1 into three parts.

As the hour was now noon, the excavator well satisfied with his morning's work and with an appetite that could do justice to a good dinner, it was decided to stop excavation for the day, hoping that another day might bring out of the past other artifacts from their ancient resting places.

On July 14th, 22nd, and 27th the author spent the entire mornings excavating the center of the road to the north of "E" on the plan. Nothing however except half a dozen very small felsite chips resulted from this twelve hours of labor.

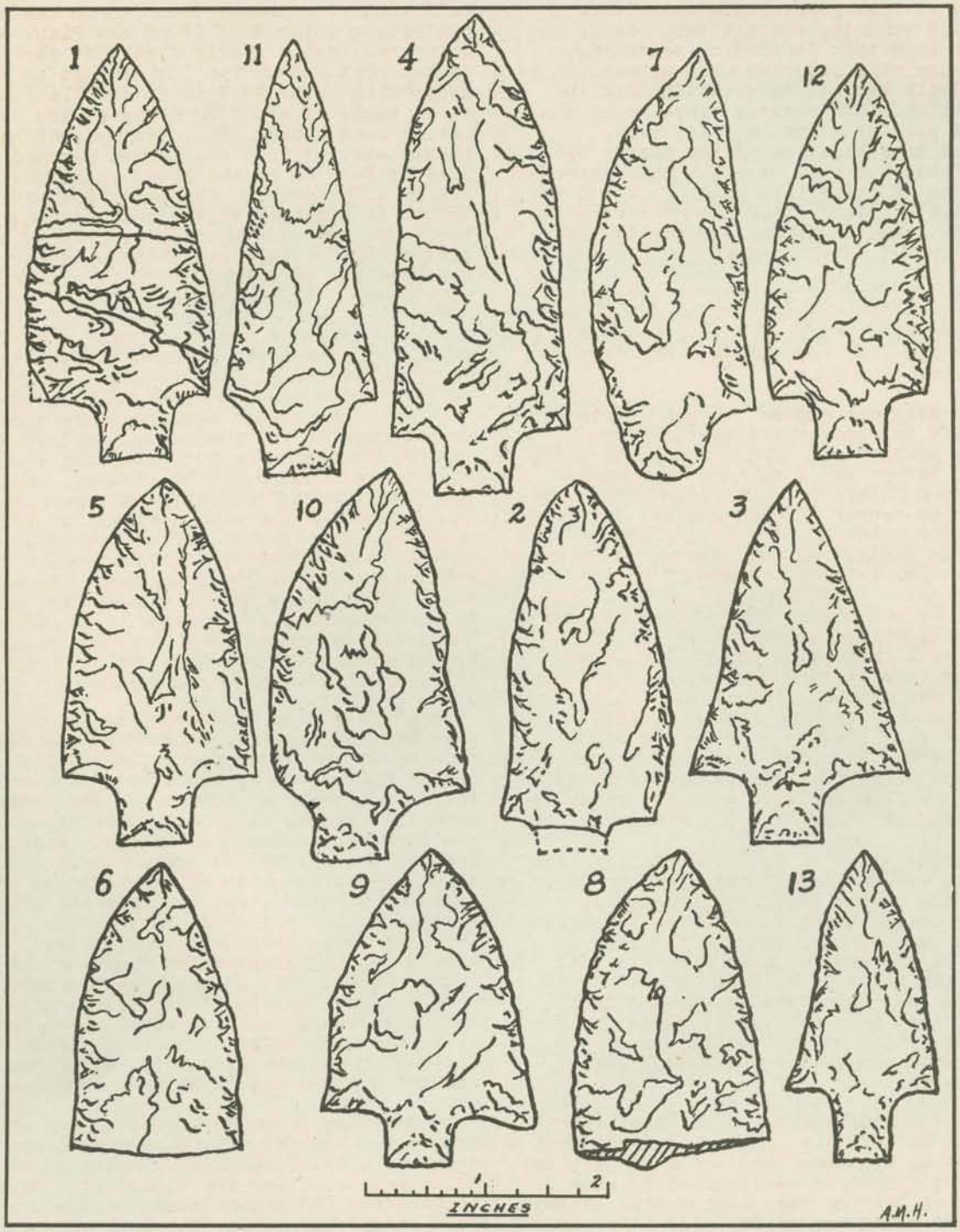
August 5th excavation was resumed on the west side of the road. Forty and one half inches northwest from "A" on the plan projectile point No.7 (F on the Plan) was uncovered laying nearly flat with the point to the northeast. Two inches west of No.7 projectile point No.8 (G on the Plan) lay at an angle of about 60 degrees, the base having been broken off. Two and one-half inches west of No.8 the trowel scraped the base of No.9 (H on the Plan) which was practically upright, the point down as though it had been stuck in the ground. Again the hour was noon so excavation was terminated for the day as the excavator wondered how many more projectile points still lay in this unusual place.

August 9th found the author again back on the job and as he worked with the trowel he pondered the possibility that he might be working on a house floor. Except for the fact that the ground was certainly more hard packed in the immediate area surrounding the projectile points no other evidence of a house floor could be claimed. Suddenly the metalic ring of the trowel scraping on stone revealed the resting place of No.10 (J on the Plan) which lay seventy-four and one-quarter inches from A on the plan in a direction half way between north and northwest. This lay with the curved edge up, the point toward the west. Half way between south and southwest at a distance of twenty inches from No.10 the base end of No.11 (K on the Plan) came into view.

At this time an urgent desire to have some one else observe conditions and pass opinion on the house floor possibility siezed the author so he immediately went to Phillips Academy at Andover. Fred Johnson kindly consented to go out later in the day and look conditions over with the author. Upon arrival at the Site Fred removed from situ projectile point No.11 which lay at an angle of about 70 degrees, base up, the point facing south. Beside it just to the south lay a stone as large as a man's fist. After a very careful examination Fred and the author agreed that although no evidence of a house floor was in evidence, the ground certainly was more hard packed where the artifacts were being found than elsewhere. Excavation was now discontinued for the day and Mr. Johnson was taken back to Andover.

Two days later on August 11th a small area which had not been excavated around the stump of a tree, ten inches south of where No.11 was found was now excavated. Here 53½ inches from "A" on the plan, half way between west and northwest lay No.12 (L on the Plan) Its position was nearly flat with the point to the north. A stone lay beside it slightly larger than the one associated with No.11.

Not until August 23rd was it possible to resume excavation when the area south of "A" on the plan was given attention. Forty five inches southeast of "A" on the plan the trowel uncovered No.13 (M on the Plan) which lay tilted at an angle of about 45



Artifacts Recovered near Foster's Pond, Andover, Mass.
The numbers are referred to in the text

degrees, base up with the point to the east. It is a strange coincident that No.13, the last one excavated was also the smallest.

Thus thirteen projectile points, all of them large enough to be in the spearpoint classification were recovered. Careful investigation of what appeared at first sight to be only an ordinary flake or chip certainly had been well worthwhile. All of these projectile points were found in situ within a very small area. The entire excavation which was done with a small trowel very carefully amounted altogether to 240 square feet (15 feet x 16 feet). In the whole area excavated nothing of archaeological value except the projectile points and sixteen very small felsite chips were found.

The author believes these projectile points are not of a type associated with the Woodland Pattern if one is to be guided by the types accepted for this culture by the First Archaeological Conference On The Woodland Pattern. (1) They are of the same type, although somewhat smaller and very similar to spearpoints excavated at the Hofmann site (M12/43). It is quite possible people of the same culture as those who occupied the lower occupation layer at the Hofmann site, which lies approximately nine hundred feet to the northeast were responsible for the manufacture of these just excavated.

All thirteen projectile points are complete, as manufactured except three, No.2, No.6 and No.8. The breakage on No.2 at the stem, caused by the automobile wheel was so small that the piece broken off could not be found. From No.6 and No.8 the entire stem and base have been broken off. The missing parts of No.6 and No.8 definitely were not in the area excavated and, therefore, these two projectile points must have been brought to the place where they were found in their present condition. Possibly it was the intention of the original owner to re-work these two into shorter projectile points. No.9 appears to have been originally much longer, perhaps this one also was once broken and a new base chipped out to make of it the short-broad point it now is. No.2 and No.7 and No.10 possibly were used as knives rather than projectile points.

Conclusions

It is difficult to understand why in a section of the country where such large projectile points are few and far between, so many (13) lay in situ in such a small area. Examination of the plan of the excavation clearly shows that all lay in an area that could have been enclosed within the walls of a circular type house ten feet two inches in diameter or a rectangular type house six feet wide by ten feet six inches in length. Nowhere outside of the above mentioned areas, shown on the plan, was anything found except a very few very small chips. In the area immediately surrounding the projectile points the ground was very hard and compressed as would be the case if tramped on in a small confined space even for a comparatively short period of time. On the other hand, all of the remaining excavated area was extremely soft indicating no compression whatever. In spite of the fact that no post molds or prominent stain could be observed to support evidence of a house floor it is the author's opinion that these artifacts once were in the area covered by some sort of house. What fate befell the original owner of these fine artifacts unfortunately can never be known. Did some tragedy befall him while hunting, was he killed by hostile Indians while absent from his house, never returning to it and thus left all these stone artifacts nearly all of them perfect for us to find centuries later? Possibly the terrible pestilence of 1617 overtook him within his house where he died, alone, time destroying everything except the stones he so carefully and expertly worked. Surely some such solution must be the reason for finding in situ so many perfect projectile points in such a small area.

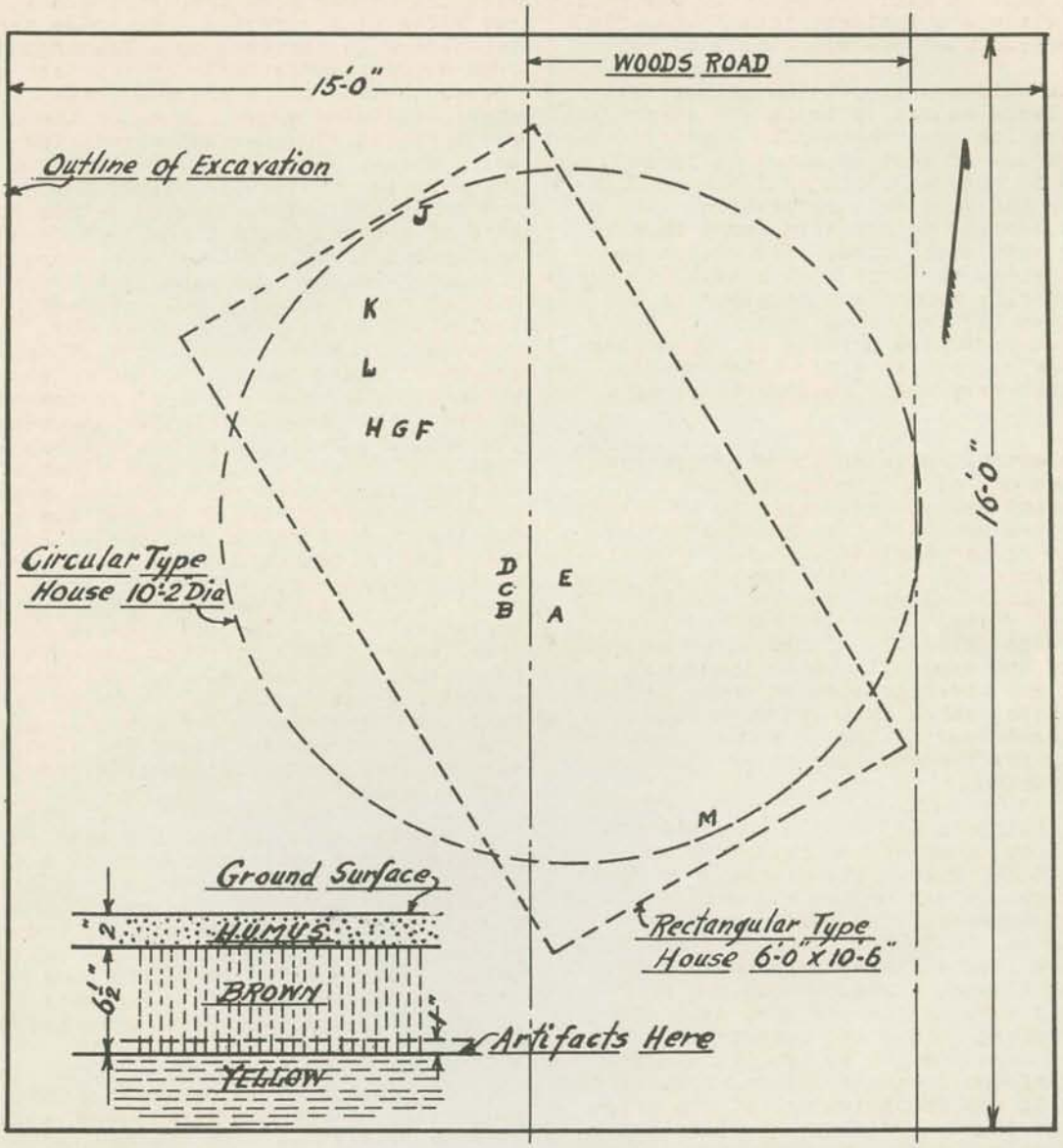
Strange also is the fact that no projectile points small enough to be classed as arrow points (2½ inches long or less) were found. Possibly this man of the far distant past did not use the bow and arrow at all but used instead only the spear or perhaps the atlatl. Certainly some of these thirteen projectile points are very similar in type to those associated with the Archaic Pattern.

In conclusion it is certain that these projectile points recovered under such strange conditions were not manufactured where found but were made elsewhere as there were only a very few chips found in the entire excavated area. Approximately one hundred feet to the northwest there is considerable evidence of the working of stone. It is possible that they may have been chipped out there and taken to the place where they were found.

This site has been assigned the number M12/78 and will receive further investigation by the author.

The author is greatful to Frederick Johnson who examined the site, and also to Mr. Charles A. Stenberg, of Woburn, Mass.,

(1) AMERICAN ANTIQUITY, Vol.VIII, No.4, April, 1943. p. 393.



Plan of Excavation near Foster's Pond, Andover, Mass.
Approximate Scale 3/8" to 1 ft.

Letters indicate location of artifacts. Although there was no evidence of house walls broken lines indicate dimensions of houses which might have covered the deposit.

who owns the land where the artifacts were found and who kindly gave permission to excavate.

Ballardvale, Massachusetts
September, 1943

New Members

An application for non-resident membership in the Society has been received from Kenneth Macgowan,
20th Century Fox Film Corp.
Box 900
Beverly Hills, California

Members now serving in the Armed Forces

Donald Brown

Chester S. Chard

Carleton S. Coon

Edward A. Danaczko

Laurence K. Gahan

George S. Gibb

John D. Hoag

Henry Hornblower II

Capt. Ralph Hornblower, Jr.

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Dr. Ernest E. Tyzzer

Eugene C. Worman, Jr.

Major Henry Howe